TELONE PRODUCTS AS ALTERNATIVES TO METHYL BROMIDE IN FLORIDA CROPS

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Dow AgroSciences, in conjunction with the University of Florida and Florida growers, has been testing Telone products as methyl bromide alternatives in horticultural crops since 1993. Extensive testing has been conducted with Telone C-17 (78.3% 1, 3-dichloropropene + 16.5% chloropicrin). A second formulation, Telone C-35 (61.8% 1, 3-dichloropropene + 35% chloropicrin) was developed to provide improved disease control where needed. Trials to date indicate that 35 gallons per treated acre of either formulation applied in the bed provides nematode and disease control equivalent to methyl bromide/chloropicrin combinations.

Testing of Telone products was focused primarily on tomatoes, peppers and strawberries with lesser emphasis on cucumbers, squash, melons, caladiums and other bulb crops. The primary nematode in tests to date was root-knot nematode (*Meloidogyne* spp.), although sting (*Belanolaimus* spp.) and other species were evaluated when present. The primary diseases occurring in our trials were Fusarium wilt (*Fusarium oxysporum* f.sp. *lycopersici*) and Fusarium crown and root rot (*Fusarium oxysporum* f.sp. *radicis-lycopersici*). Control of these pests and resultant yields have been comparable to that with methyl bromide/chloropicrin combinations in most of our trials.

Although Telone products provide some levels of weed control, control of nutsedge (*Cyperus* spp.) with these products alone has not been equivalent to that of methyl bromide + chloropicrin. For this reason, herbicide partners are necessary where weed control is needed. Tillam (pebulate) applied preplant incorporated in the beds in combination with Telone products has provided control of nutsedge in tomatoes. Other herbicides are needed for the remaining crops and research currently underway has identified potential candidates for most of these crops.

Based on studies to date, Telone products form a foundation for pest management programs which will provide suitable alternatives to methyl bromide/chloropicrin programs currently in place. Ongoing studies are focused on identification of additional herbicide partners and optimizing their use, optimizing application parameters for Telone products, and combining Telone products with other management practices such as solarization or the use of different mulch films.